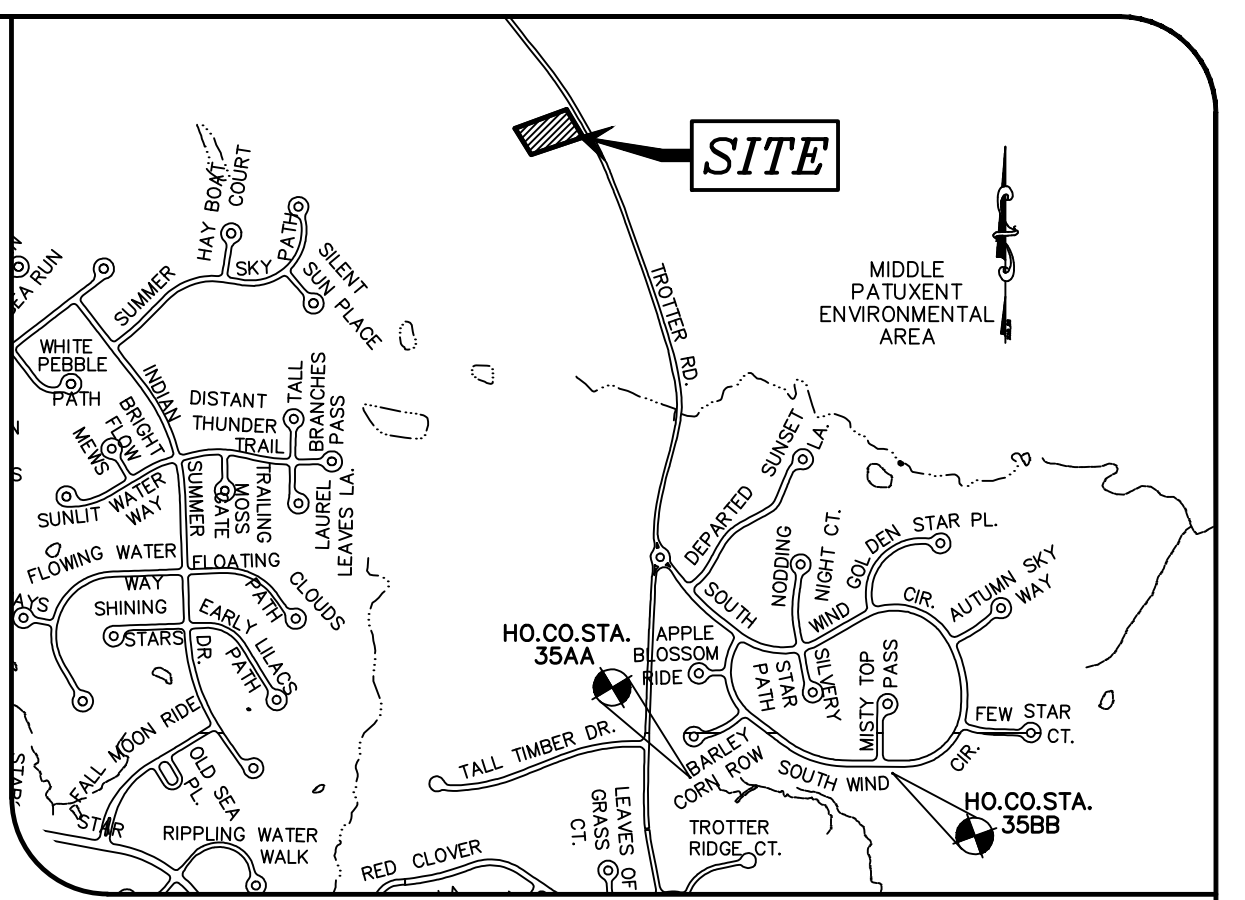


SOIL DESCRIPTIONS table with columns: SYMBOL, RATING, NAME, KW FACTOR, MAP. Rows include GbB, GbC, GmB.

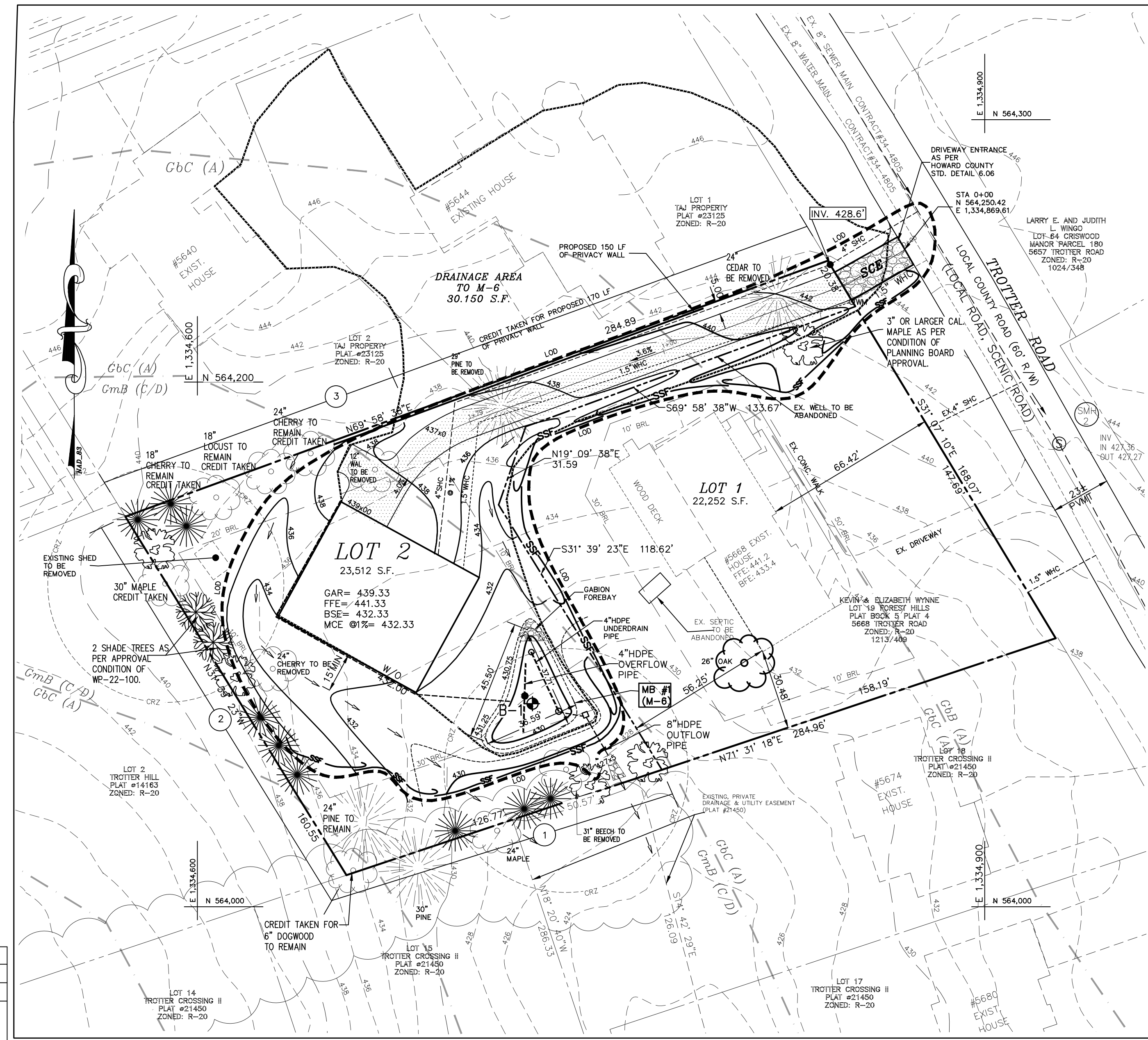
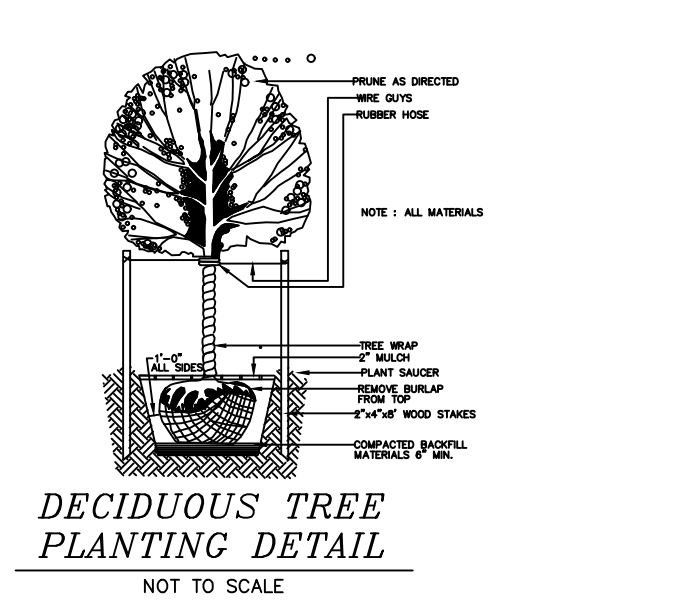
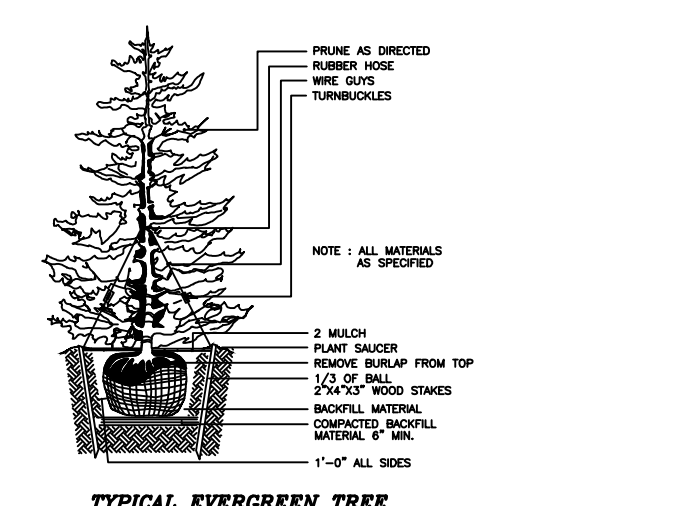
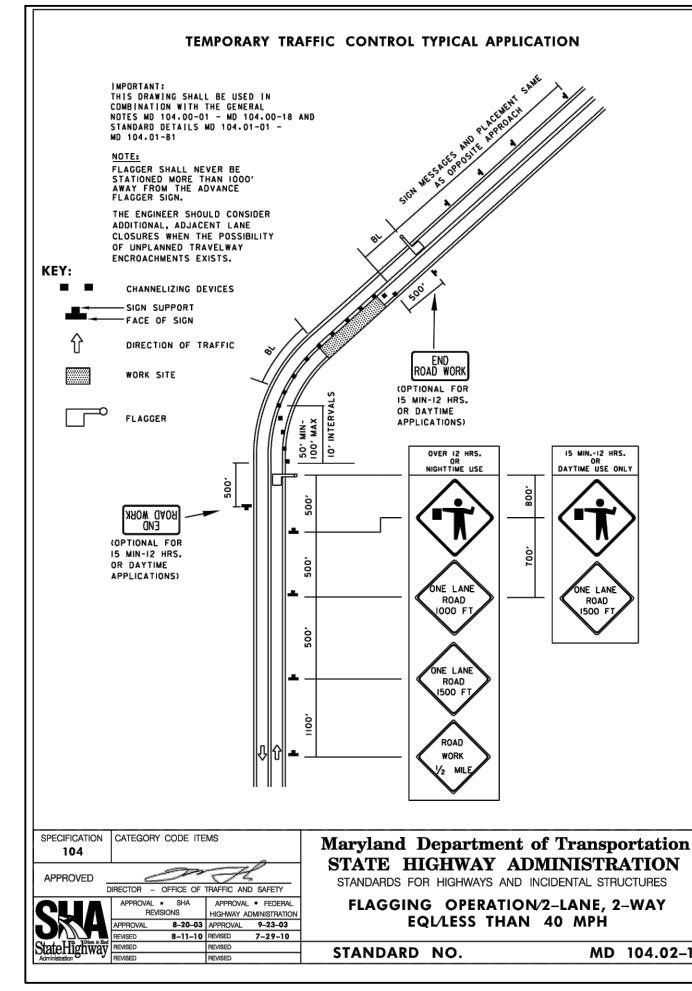
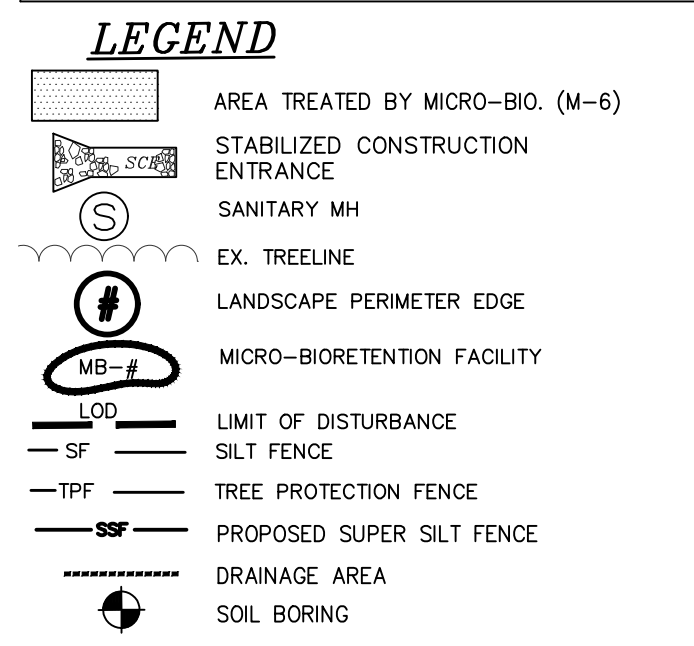
INDEX OF DRAWINGS table with columns: NO., DESCRIPTION. Rows include 1 SUPPLEMENTAL, LANDSCAPE AND FOREST CONSERVATION PLAN, 2 NOTES AND DETAILS.

SWM PRACTICES SCHEDULE table with columns: AREA, PROPOSED PRACTICES, REQUIRED ESDv, PROVIDED ESDv, REQUIRED Pe, PROVIDED Pe, REQUIRED Rev, PROVIDED Rev. Rows include LOT 1 (EX. HOUSE), LOT 2.



FOREST CONSERVATION WORKSHEET FOR LOT 2 5668 TROTTER RD. with various categories like Afforestation Threshold, Existing Forest Cover, etc.

SWM PRACTICES CHART table with columns: LOT NO., STREET ADDRESS, MICRO-BIORETENTION (NUMBER). Row for LOT 2 5668 TROTTER RD. N/A.



SCHEDULE A: PERIMETER LANDSCAPED EDGE

Table with columns: CATEGORY, ADJACENT TO PERIMETER PROPERTIES, TOTAL. Rows include LANDSCAPE TYPE, LINEAR FEET OF PERIMETER, CREDIT FOR EXISTING VEGETATION, etc.

*PERIMETERS 1- CREDIT TAKEN FOR 6" DOGWOOD. **PERIMETERS 2- CREDIT TAKEN FOR 24" PINE AND 30" MAPLE. ***PERIMETERS 3- CREDIT TAKEN FOR 18" CHERRY, 18" LOCUST AND 24" CHERRY.

LANDSCAPE REQUIREMENT PLANTING SCHEDULE

Table with columns: QUANTITY, SYMBOL, BOTANICAL NAME, COMMON NAME, SIZE. Rows include ACER RUBRUM 'RED SUNSET', THUJA PLICATA, etc.

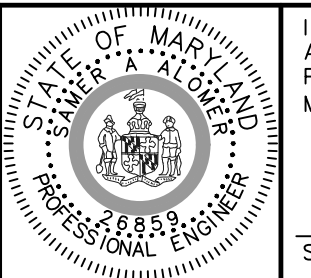
SPECIMEN TREE CHART

Table with columns: KEY, SPECIES, SIZE (IN DBH), CRZ (FEET RADIUS), COMMENTS. Rows include 1 MAPLE, 2 BEECH TREE.

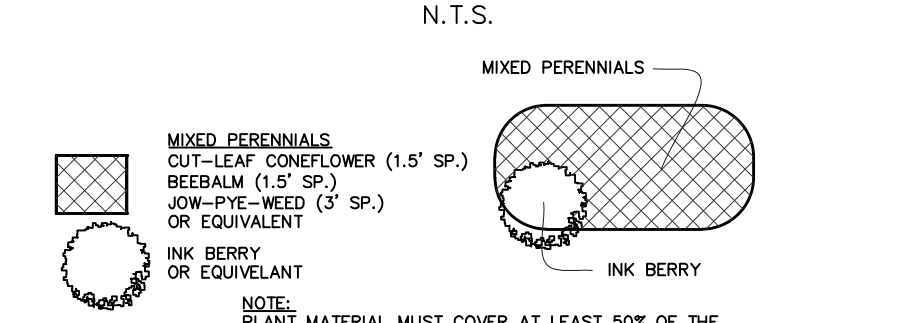
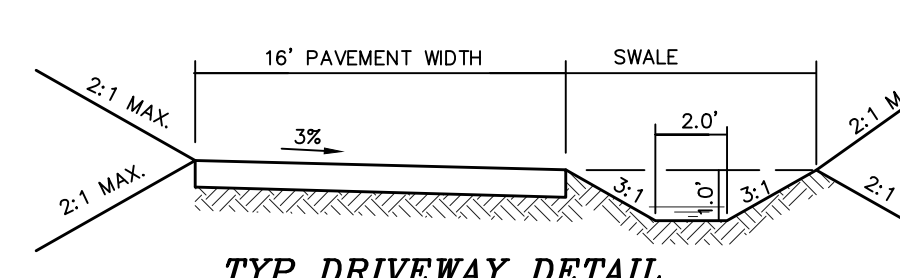
OWNER/DEVELOPER

KEVIN WYNNE, 5668 TROTTER ROAD, CLARKSVILLE, MD 21029, 301-829-7820

APPROVED: DEPARTMENT OF PLANNING AND ZONING, 12/13/2022, CHIEF, DEVELOPMENT ENGINEERING DIVISION, DATE 12/13/2022



I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 26859, EXP. DATE 08/08/23. Samer Alomer, 11.23.2022



MITIGATION TREE PLANTING SCHEDULE (WP-22-100)

Table with columns: QUANTITY, SYMBOL, BOTANICAL NAME, COMMON NAME, SIZE. Row for 2 PRUNUS SARGENTII OR EQUIVALENT.

MICRO-BIORETENTION SCHEDULE

Table with columns: FACILITY, TOP EL. (SURFACE), WEIR EL. (PONDING), BERM EL., INV. IN., INV. OUT., SURFACE AREA, PONDING AREA, PONDING DEPTH, GRAVEL DEPTH BELOW UNDERDRAIN. Row for MB-1.

MHU TRACKING CHART

Table with columns: TOTAL NUMBER OF LOTS/UNITS, NUMBER OF MHU REQUIRED, NUMBER OF MHU PROVIDED, etc.

NOTE: SEE SHEET 2 OF 2 FOR PLAN VIEW AND CROSS-SECTION OF MICRO-BIORETENTION FACILITY

GENERAL NOTES:

- 1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE. 2. PROJECT BACKGROUND: LOCATION: TAX MAP: 35 PARCEL: 167 GRID: 2 LOT: 19... 3. SITE ANALYSIS DATA: A. TOTAL TRACT AREA: 1.05 AC.±... 4. ON-SITE TOPOGRAPHY SHOWN HEREON IS BASED ON A FIELD RUN SURVEY CONDUCTED BY MILDENBERG, BOENDER & ASSOCIATES ON OR ABOUT MARCH 2021.

Project information table: Project 21-009, Date NOV. 2022, Illustration MAM, Scale 1"=90', etc.

Revision table with columns: No., description, date.

WYNNE PROPERTY LOTS 1 & 2 TAX MAP: 35 - GRID: 02 - PARCEL: 167 - LOT: 19 HOWARD COUNTY, MARYLAND FIFTH ELECTION DISTRICT SUPPLEMENTAL, LANDSCAPE AND FOREST CONSERVATION PLAN

MILDENBERG, BOENDER & ASSOC., INC. Engineers Planners Surveyors 8818 Forrest Street, Suite 300, Ellicott City, MD 21043 (410) 997-0296 Tel. (410) 997-0296 Fax.

Appendix B.4. Construction Specifications for Environmental Site Design Practices

Base Course - The base course shall be AASHTO No. 3 or 4 course aggregate with an assumed open pore space of 30% (n = 0.30).

3. Reinforced Turf

Reinforced Grass Pavement (RGP) - Whether used with grass or gravel, the RGP thickness shall be at least 1 1/2" thick with a load capacity capable of supporting the traffic and vehicle types that will be carried.

B.4.C Specifications for Micro-Bioretenction, Rain Gardens, Landscape Infiltration & Infiltration Berms

1. Material Specifications

The allowable materials to be used in these practices are detailed in Table B.4.1.

2. Filtering Media or Planting Soil

The soil shall be a uniform mix, free of stones, stumps, roots or other similar objects larger than two inches. No other materials or substances shall be mixed or dumped within the micro-bioretenction practice that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations.

The planting soil shall be tested and shall meet the following criteria:

- Soil Component - Loamy Sand or Sandy Loam (USDA Soil Textural Classification)
Organic Content - Minimum 10% by dry weight (ASTM D 2974). In general, this can be met with a mixture of loamy sand (60%-65%) and compost (35% to 40%) or sandy loam (30%), coarse sand (30%), and compost (40%).
Clay Content - Media shall have a clay content of less than 5%.
pH Range - Should be between 5.5 - 7.0. Amendments (e.g., lime, iron sulfate plus sulfur) may be mixed into the soil to increase or decrease pH.

There shall be at least one soil test per project. Each test shall consist of both the standard soil test for pH, and additional tests of organic matter, and soluble salts. A textural analysis is required from the site stockpiled topsoil. If topsoil is imported, then a texture analysis shall be performed for each location where the topsoil was excavated.

3. Compaction

It is very important to minimize compaction of both the base of bioretention practices and the required backfill. When possible, use excavation hoers to remove original soil. If practices are

Supp. 1 B.4.4

Appendix B.4. Construction Specifications for Environmental Site Design Practices

excavated using a loader, the contractor should use wide track or marsh track equipment, or light equipment with turf type tires. Use of equipment with narrow tracks or narrow tires, rubber tires with large lugs, or high-pressure tires will cause excessive compaction resulting in reduced infiltration rates and is not acceptable.

Compaction can be alleviated at the base of the bioretention facility by using a primary tilling operation such as a chisel plow, ripper, or subsoiler. These tilling operations are to refracture the soil profile through the 12 inch compaction zone. Substitute methods must be approved by the engineer. Rototillers typically do not till deep enough to reduce the effects of compaction from heavy equipment.

Rototill 2 to 3 inches of sand into the base of the bioretention facility before backfilling the optional sand layer. Pump any ponded water before preparing (rototilling) base.

When backfilling the topsoil over the sand layer, first place 3 to 4 inches of topsoil over the sand, then rototill the sand/topsoil to create a gradation zone. Backfill the remainder of the topsoil to final grade.

When backfilling the bioretention facility, place soil in lifts 12" to 18". Do not use heavy equipment within the bioretention basin. Heavy equipment can be used around the perimeter of the basin to supply soils and sand. Grade bioretention materials with light equipment such as a compact loader or a dozer/loader with marsh tracks.

4. Plant Material

Recommended plant material for micro-bioretenction practices can be found in Appendix A, Section A.2.3.

5. Plant Installation

Compost is a better organic material source, is less likely to float, and should be placed in the invert and other low areas. Mulch should be placed in surrounding to a uniform thickness of 2" to 3". Shredded or chipped hardwood mulch is the only accepted mulch. Pine mulch and wood chips will float and move to the perimeter of the bioretention area during a storm event and are not acceptable. Shredded mulch must be well aged (6 to 12 months) for acceptance.

Rootstock of the plant material shall be kept moist during transport and on-site storage. The plant root ball should be planted so 1/8" of the ball is above final grade surface. The diameter of the planting pit shall be at least six inches larger than the diameter of the planting ball. Set and maintain the plant straight during the entire planting process. Thoroughly water ground bed cover after installation.

Supp. 1 B.4.5

Appendix B.4. Construction Specifications for Environmental Site Design Practices

Trees shall be braced using 2" by 2" stakes only as necessary and for the first growing season only. Stakes are to be equally spaced on the outside of the tree ball.

Grasses and legume seed should be drilled into the soil to a depth of at least one inch. Grass and legume plugs shall be planted following the non-grass ground cover planting specifications.

The topsoil specifications provide enough organic material to adequately supply nutrients from natural cycling. The primary function of the bioretention structure is to improve water quality. Adding fertilizers, pesticides, or at a minimum, impedes this goal. Only add fertilizer if wood chips or mulch are used to amend the soil. Rototill urea fertilizer at a rate of 2 pounds per 1000 square feet.

6. Underdrains

Underdrains should meet the following criteria:

- Pipe- Should be 4" to 6" diameter, slotted or perforated rigid plastic pipe (ASTM F758, Type PS 28, or AASHTO-M-278) in a gravel layer. The preferred material is slotted, 4" rigid pipe (e.g., PVC or HDPE).
Perforations - If perforated pipe is used, perforations should be 3/4" diameter located 6" on center with a minimum of four holes per row. Pipe shall be wrapped with a 1/2" (No. 4 or 4x4) galvanized hardware cloth.
Gravel - The gravel layer (No. 57 stone preferred) shall be at least 3" thick above and below the underdrain.
The main collector pipe shall be at a minimum 0.5% slope.
A rigid, non-perforated observation well must be provided (one per every 1,000 square feet) to provide a clean-out port and monitor performance of the filter.
A 4" layer of pea gravel (3/4" to 3/8" stone) shall be located between the filter media and underdrain to prevent migration of fines into the underdrain. This layer may be considered part of the filter bed when bed thickness exceeds 24".

The main collector pipe for underdrain systems shall be constructed at a minimum slope of 0.5%. Observation wells and/or clean-out pipes must be provided (one minimum per every 1000 square feet of surface area).

7. Miscellaneous

These practices may not be constructed until all contributing drainage area has been stabilized

Supp. 1 B.4.6

Appendix B.4. Construction Specifications for Environmental Site Design Practices

Table B.4.1 Materials Specifications for Micro-Bioretenction, Rain Gardens & Landscape Infiltration. Columns: Material, Specification, Size, Notes.

OPERATION AND MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (M-6)

- A. THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND 2.
B. THE OWNER SHALL PERFORM A PLANT INSPECTION IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.
C. THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.
D. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

Geolab logo and contact information: GEOTECHNICAL LABORATORIES, INC. ENGINEERS-GEOLOGISTS-CONSULTANTS. October 25, 2021. Re: Subsurface Exploration Wynne Property.

Dear Mr. Alomer: Geotechnical Laboratories, Inc. (Geolab) has completed the requested exploration related to the above referenced project. As requested by Mildenberg, Boender & Assoc., Inc. (project Civil Engineer), a soil boring has been drilled in the above referenced property for a proposed stormwater management (SWM) facility.

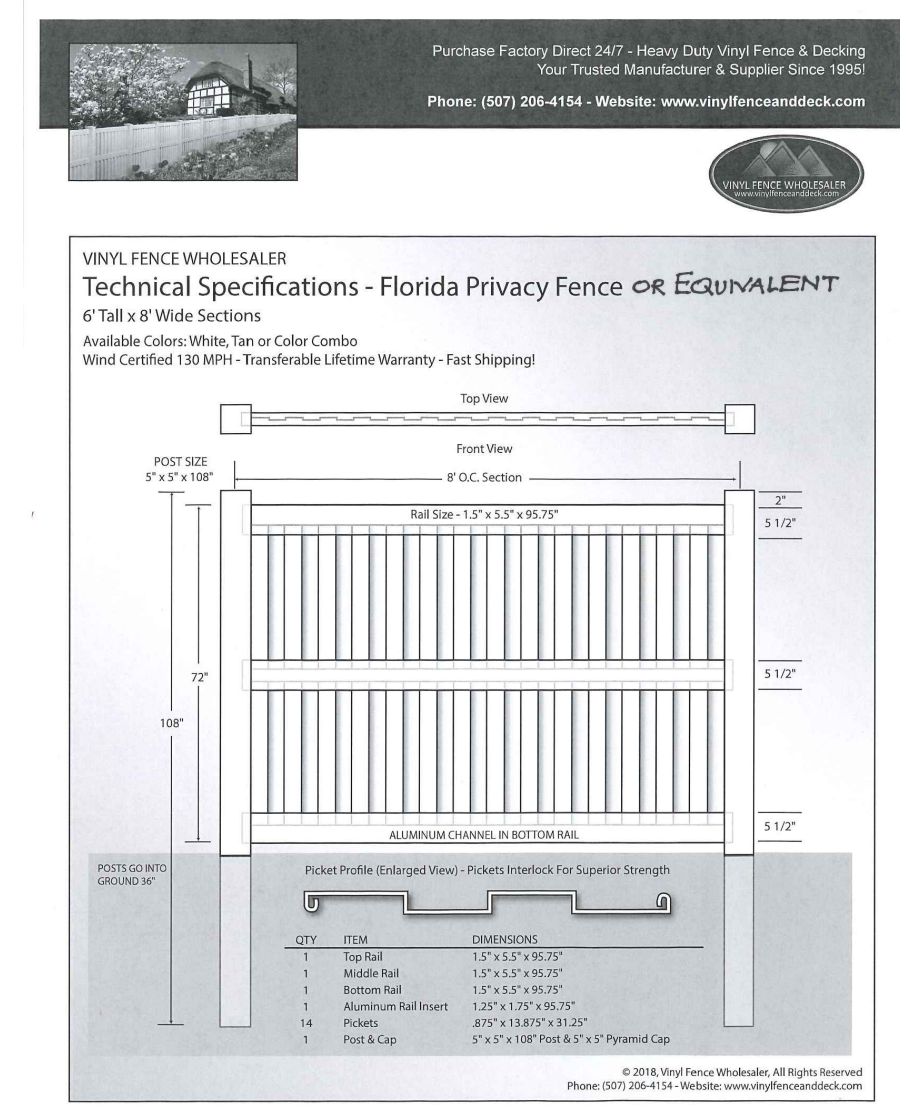
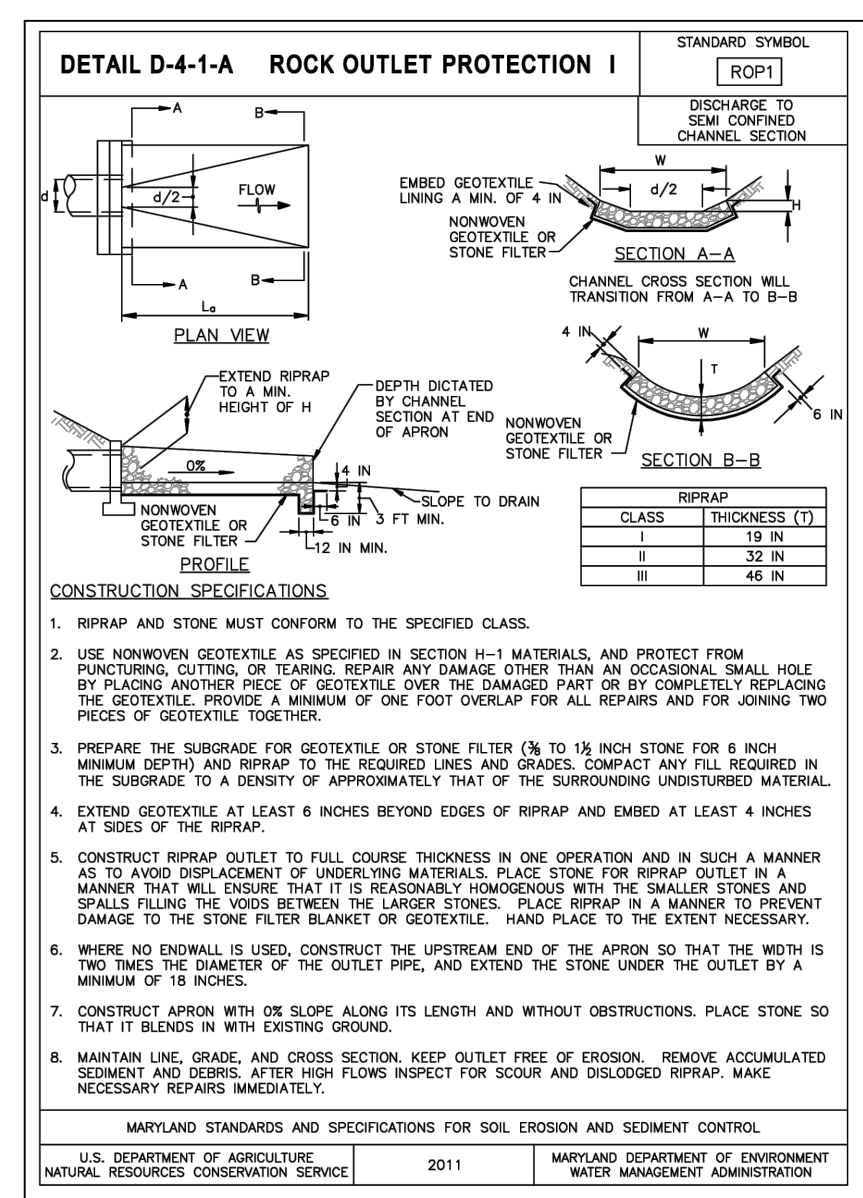
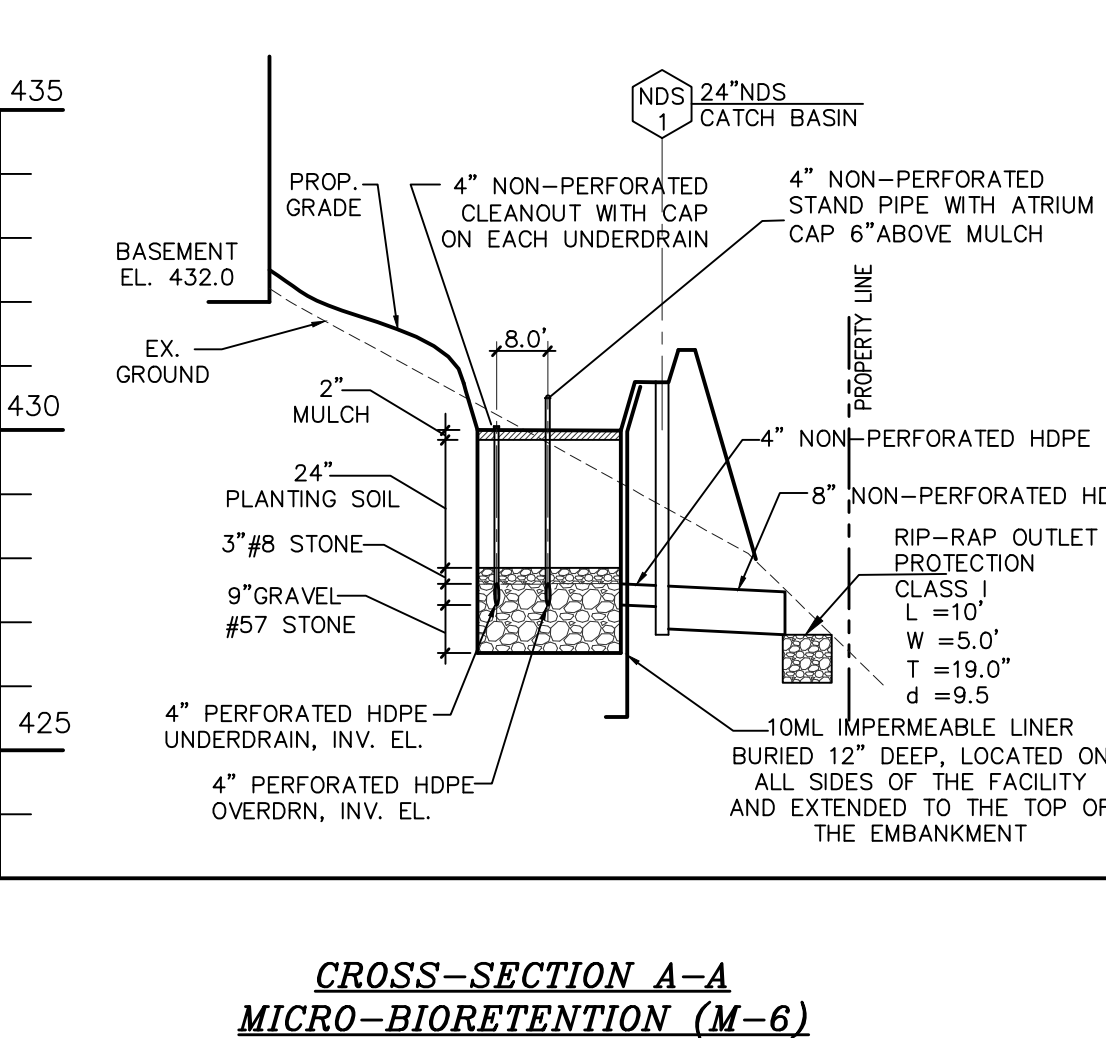
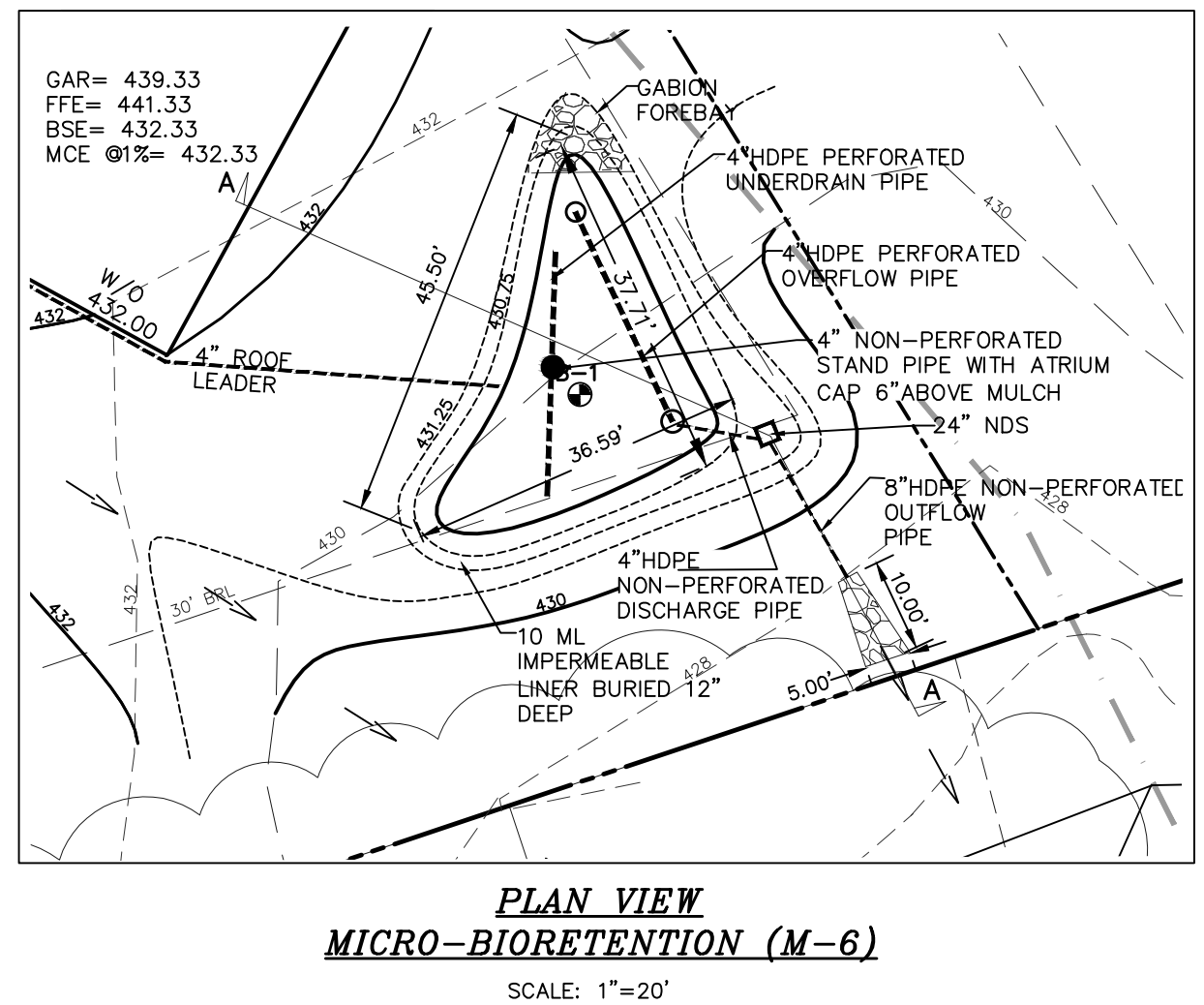
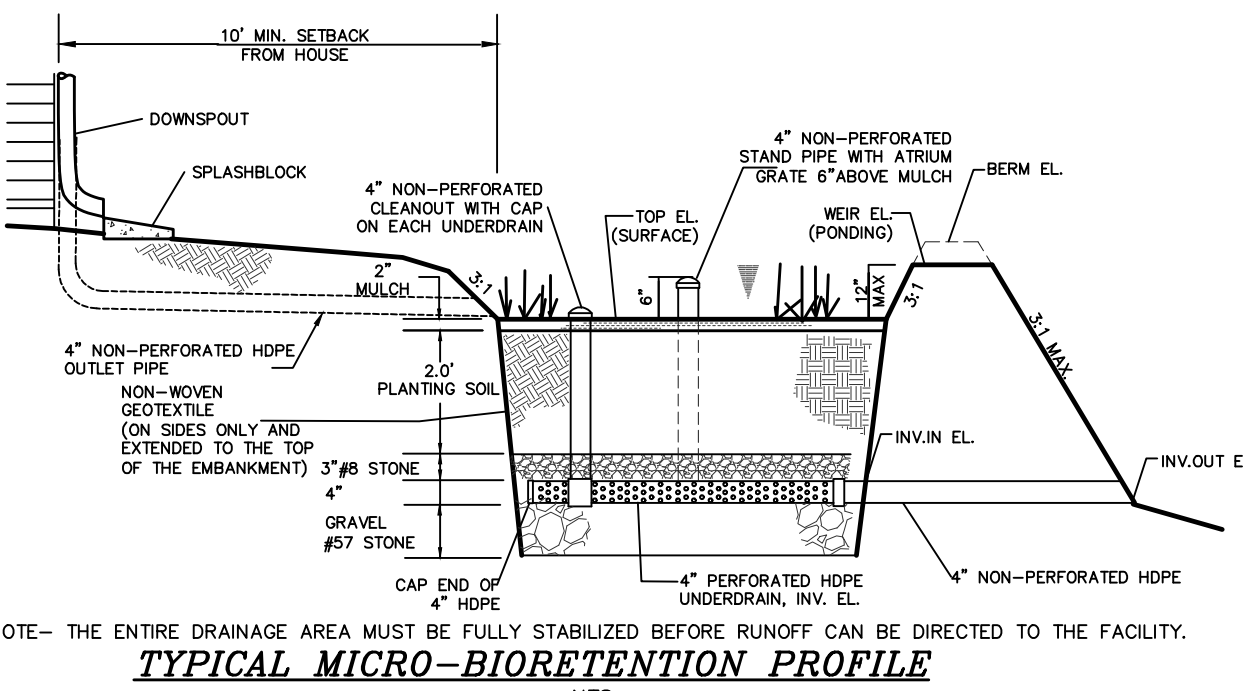
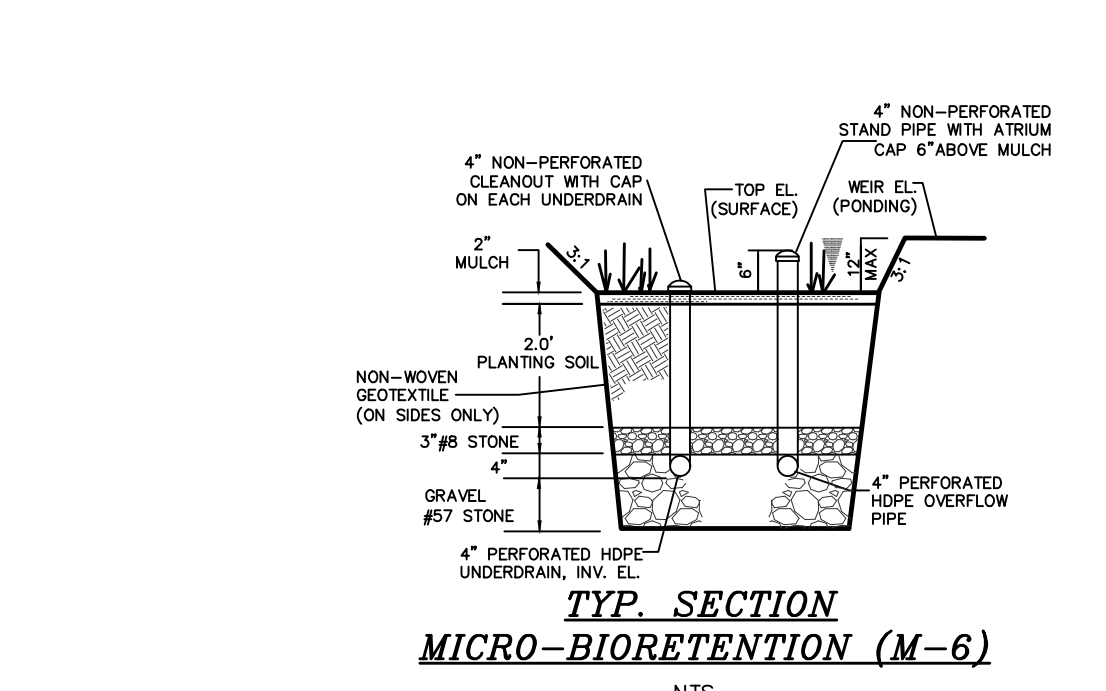
For this study, one soil test boring (designated as B-1) was drilled using hand-augers. The test boring location was determined and staked by Mildenberg, Boender & Assoc., Inc. as shown on the attached Boring Location Plan. The boring was checked for water during drilling and after 24-hours.

Table with 4 columns: Test Boring No., Requested Boring Depth (feet), Depth to Auger Refusal (feet), Groundwater depth during drilling (feet), Groundwater depth after 24-hours day (feet).

Should you have any questions, please do not hesitate to contact our office at your convenience.

I hereby certify that this report was prepared or approved by me, and that I am a duly licensed, professional engineer under the laws of the State of Maryland, License No. 42003, expiration date 12/9/2022.

Professional Engineer seal for David A. Rockwood, P.E. Staff Engineer. Geotechnical Laboratories, Inc. 8980 State Route 198, Suite D, Columbia, Maryland 21045.



APPROVED: CHIEF, DEVELOPMENT ENGINEERING DIVISION. Date: 12/13/2022. Seal of the State of Maryland.

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 26859, EXP. DATE 08/08/23. Samer Alomer, 11.23.2022.

OWNER/DEVELOPER: KEVIN WYNNE, 5668 TROTTER ROAD, CLARKSVILLE, MD 21029, 301-829-7820.

Project information table: Project 21-009, Date NOV. 2022, Illustration MMM, Engineering MMM, Scale 1"=30', Approval SAA.

Revision table with columns: No., Description, Date.

WYNNE PROPERTY LOTS 1 & 2. TAX MAP: 35 - GRID: 02 - PARCEL: 167 - LOT: 19. HOWARD COUNTY, MARYLAND. FIFTH ELECTION DISTRICT. NOTES AND DETAILS.

MILDENBERG, BOENDER & ASSOC., INC. Engineers Planners Surveyors. 8816 Forrest Street, Suite 300, Elkton City, MD 21043. (410) 997-0296 Tel. (410) 997-0298 Fax.